

## REMARKS

In a non-final Office Action, dated February 9, 2005, claims 1-20 are pending in the application. Claims 1-20 are rejected. Specifically, claims 1-2, 6, 8-15, and 17-20 are rejected as unpatentable over U.S. Patent No. 6,724,403 (Santoro et al.) in view of U.S. Patent No. 6,727,920 B1 (Vineyard, Jr. et al.). Claims 3-5, and 16 are rejected as unpatentable over Sontoro et al. in view of Vineyard, Jr. et al. and further in view of U.S. Patent No. 5,367,628 (Ote et al.). Finally, claim 7 is rejected as unpatentable over Sontoro et al. in view of Vineyard, Jr. et al. and further in view of U.S. Patent No. 5,850,471 (Brett).

The applicants respectfully ask that the examiner contact the undersigned at 206-903-2461 to discuss any remarks made below should the current grounds for rejection be maintained or new grounds for rejection be introduced with regard to claims 1-20 pending in the present application.

### *Summary of The Invention*

Aspects of the present invention teach a system and method that allows a user of a host computer system to run *multiple virtual machine environments* and to view the thumbnail images of the video output of each virtual machine application. In one aspect of the invention, the thumbnail images are generated by interpreting the contents of a virtual machine's video RAM (VRAM) and scaling the resulting representations into several thumbnail images that may be conveniently viewed, for example, in a single window. Interpretation of the virtual machine's VRAM is generally dependent on the current video mode of the virtual machine, such as text, planar video, linear video, among other examples. According to another aspect of the invention, the thumbnail images are generated using bilinear sampling techniques to create an anti-aliased miniature image.

In the case of active emulated computer systems, thumbnail images are preferably continuously generated to give a real-time representation of the virtual machine application within the thumbnail view. The thumbnail or reduced-size images are preferably saved whenever the respective virtual machine is placed in a suspension mode and accordingly saved to

the storage device of the computer system running the virtual machine software. The image of these suspended images are likewise displayed for the user, allowing the user to quickly view the status of the virtual machine regardless of whether the virtual machine is active or suspended.

The disclosed system and method provide several technical advantages over conventional systems and methods for managing multiple computer applications, such as multiple virtual computer environments. One advantage of the system and method of the present invention is that it allows a user of a computer system that is *running multiple virtual machine environments* to view the status of several multiple virtual machine environments at one glance. This allows the user to easily manage *several virtual machine environments that are running simultaneously*. Another advantage of the present system and method is that the user may quickly ascertain the status of a given virtual machine without having to activate or unsuspend the virtual machine. This allows the user to save time, especially if the virtual machine is running at a relatively slow speed, or if the user is working on several projects.

***Santoro et al.***

Santoro et al. discloses a system and method for simultaneous display of multiple information sources. Specifically, it describes a graphical user interface for organizing the simultaneous display of information from a multitude of information sources. In particular, the graphical user interface organizes content from a variety of sources into grid of tiles, each of which can refresh its content independently of the other tiles. A grid functionality manages the refresh rates of the multiple information sources. (Abstract).

For example, a grid can consist of a 3 by 3 matrix of nine tiles, thus demonstrating some of the different contents that tiles can display. A first tile can point to a database of stock quotes. A second tile can display the active folders in an electronic mail utility. A third tile can display a portion of an alphabetical list of quoted companies. Tiles four through eight can point to websites displaying, respectively, high technology news, electronic goods for sale, categories of business news, items available by auction and the Wall Street Journal. The ninth tile, can point to the file-viewer of a windows-based operating system and displays the currently accessible disc

drives. *See* Figure 1. Thus, within the scope of the Santoro invention, an information source may comprise any analog signal, source of digital data or a datastream, including, but not limited to, video, audio, text and graphics. The information may be in any format, such as ASCII, bitmap, MP3, JPEG, GIF, TIFF, a mark-up language such as HTML, XML, VRML, HDML, formatted text such as rich text format, or binary. (col. 6, ll. 39-59)

***Vineyard, Jr. et al.***

Vineyard, Jr. et al. discloses a multiple operating system quick boot utility. Specifically, it discloses a computerized user interface for assisting a computer user by selecting *a default operating system* (one operating system) *for a computer*. The computerized interface operates during a current computing session and provides a list of operating systems available. A user can thus make *a selection* (one selection) using standard controls such as icons, alphanumeric lists and highlighting. Once selected, an operating becomes the default operating system software on the computer. Therefore, during the next startup of the computer a selected operating system will boot unless there is some other intervention. In addition to selecting *an operating system* (one operating system), Vineyard, Jr. et. al. can also be used to cause the computer to restart. Restart can be set to execute immediately or to execute upon a change in the default operating system. Vineyard, Jr. et. al. can also be caused to uninstall thereby erasing the program files relating to it. (Abstract)

***Claim Rejections Under 35 U.S.C. § 103(a)***

Four independent claims are pending in the present application: claims 1, 8, 11, and 12.

For example, claims 1 recites:

A single computer system for running one or more software applications, wherein the software applications are suitable for generating a video output, said single computer system comprising:  
a host operating system suitable for displaying a graphical user interface;  
*multiple emulated operating systems being emulated by one or more emulator programs running on the host operating system; and*  
wherein the host operating system is able to display for a user a reduced-size representation of the video output of the emulated operating systems that are being operated in a background mode.

(emphasis added). Claim 1 recites the limitation of “*multiple emulated operating systems being emulated* by one or more emulator programs running on the host operating system” (emphasis added).

In contrast, Vineyard, Jr. et al., does not disclose *multiple operating systems being emulated*. Vineyard, Jr. et al. does just the opposite. It allows for *one* operating system to run. In Vineyard, Jr. et al., a user can select *one* operating system from a set of operating systems and set it as the default operating system. This operating system will become effective on the next reboot. This does not teach the limitation of “*multiple emulated operating systems being emulated* by one or more emulator programs running on the host operating system” (claim 1) (emphasis added).

Likewise, Santoro et al. does not teach this limitation. As the Examiner correctly points out, “Santoro [sic] does not clearly teach that there are *multiple emulated operating systems being emulated* by one emulator programs running on the host operating system” (Office Action, p. 3) (emphasis added).

According to the Manual of Patent Examining Procedure (MPEP), to establish a prima facie case of obviousness, three basic criteria must be met:

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, *the prior art reference (or references when combined) must teach or suggest all the claim limitations.*

(MPEP § 2143). Thus, cited art must teach or suggest *all* the claim limitations. Here, neither Vineyard, Jr. et al. nor Santoro et al. discloses the limitation of “multiple emulated operating systems being emulated by one or more emulator programs running on the host operating system” (claim 1). Since the cited art does not teach all the claim limitations, it cannot render claim 1 unpatentable under § 103(a).

The remaining independent claims, 8, 11, and 12 contain similar limitations not found in Vineyard, Jr. et al. and Santoro et al., either alone or in combination: “*multiple emulated virtual machines being emulated* by one or more emulator programs running on the host operating

system” (claim 8) (emphasis added); “...*multiple emulated computer systems executing* on a single computer system...” (claim 11) (emphasis added); “...*multiple emulated computer systems executing* on a single computer system...” (claim 12) (emphasis added). Therefore, these claims, just like claim 1, patentably define over the cited art.

Dependent claims 2-7, 9-10, and 13-20, directly or indirectly depend from claims 1, 8, and 12, respectively, and therefore are also believed allowable for the same reasons. Withdrawal of the rejection under § 103(a) is therefore earnestly solicited.

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**PATENT**

### **CONCLUSION**

Applicants believe that the present Amendment is responsive to each of the points raised by the Examiner in the Official action, and submits that Claims 1-20 of the application are in condition for allowance. Favorable consideration and passage to issue of the application at the Examiner's earliest convenience is earnestly solicited.

Date:

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